

The Climate & Ecological crisis –

How medicines optimisation teams
can respond to this health
emergency.





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TOGETHER FOR OUR PLANET

31 OCT - 12 NOV 2021

GLASGOW

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We've known
about Climate
Change for a
long time

COAL CONSUMPTION AFFECT- ING CLIMATE.

The furnaces of the world are now burning about 2,000,000,000 tons of coal a year. When this is burned, uniting with oxygen, it adds about 7,000,000,000 tons of carbon dioxide to the atmosphere yearly. This tends to make the air a more effective blanket for the earth and to raise its temperature. The effect may be considerable in a few centuries.

Published Aug. 14, 1912.

The Climate Crisis – established science

'Coal Consumption Affecting Climate' Article published

1912

1959

American Petroleum Institute warned: Increased CO₂ will cause polar ice-caps to melt & flood New York

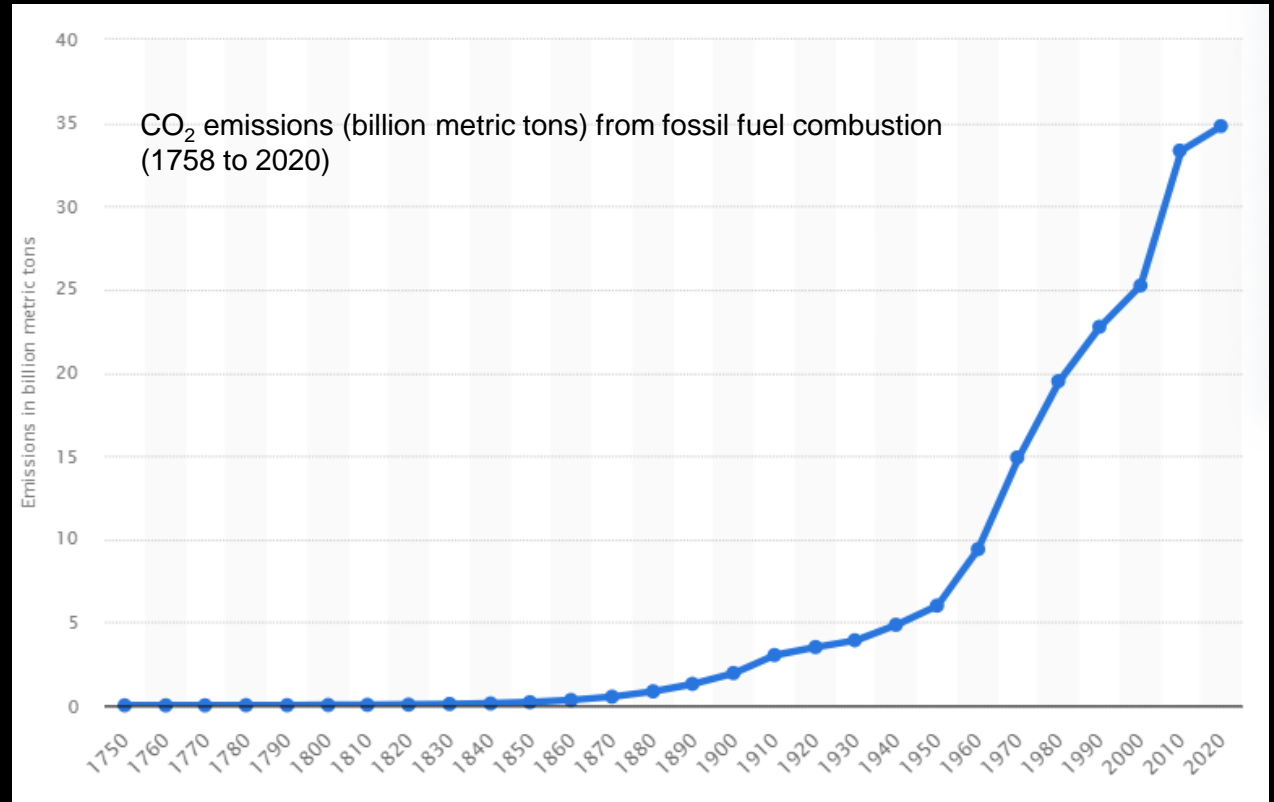
US President advised: "Pollutants have altered on a global scale the CO₂ content of the air with effects 'deleterious' to human beings."

1965

1981

Exon warned: "CO₂ emissions will produce effects which will be catastrophic for Earth's population."

Emissions have continued to rise



2015 Paris Accord

- Adopted by 196 Parties
- Goal: *limit global warming to +1.5°C*
- Aim: *climate neutral world by mid-century*

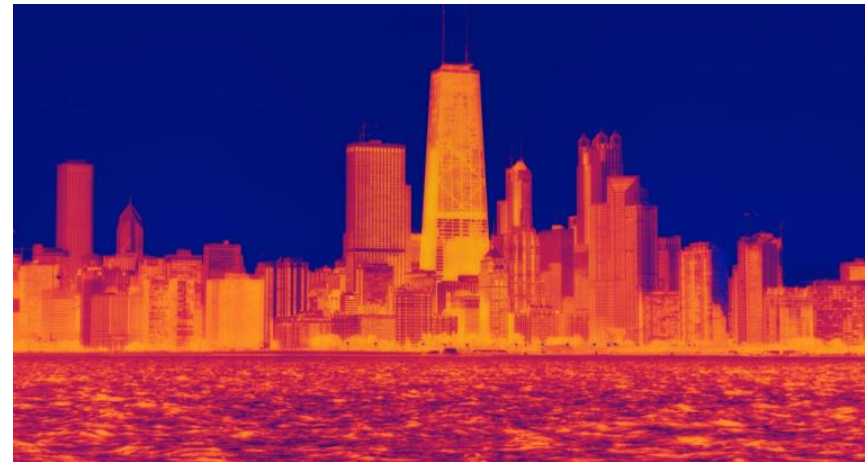
We are now at +1.2C

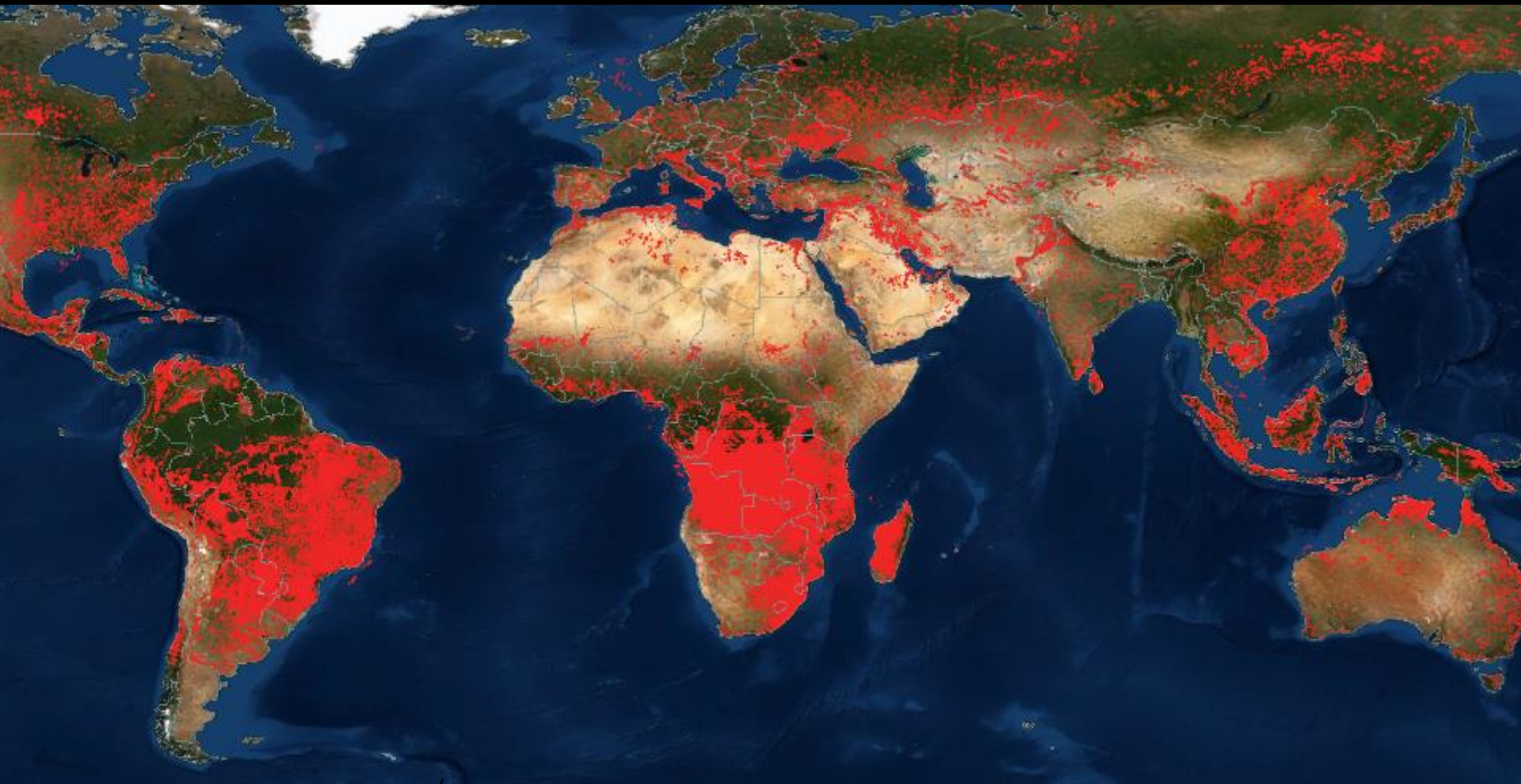


“For humanity, for the planet, for life.”

Heat & Drought

- *Climate change is altering the frequency, intensity and duration of heatwaves*
- *Mortality comes about from heat exhaustion & heat stroke / increases with each degree of warming*
- *1.5°C: 350 million+ people exposed to deadly heat, particularly in cities*
- *Food-system failures & Drought*
- *Increased likelihood of sustained conflict - e.g, Syria*

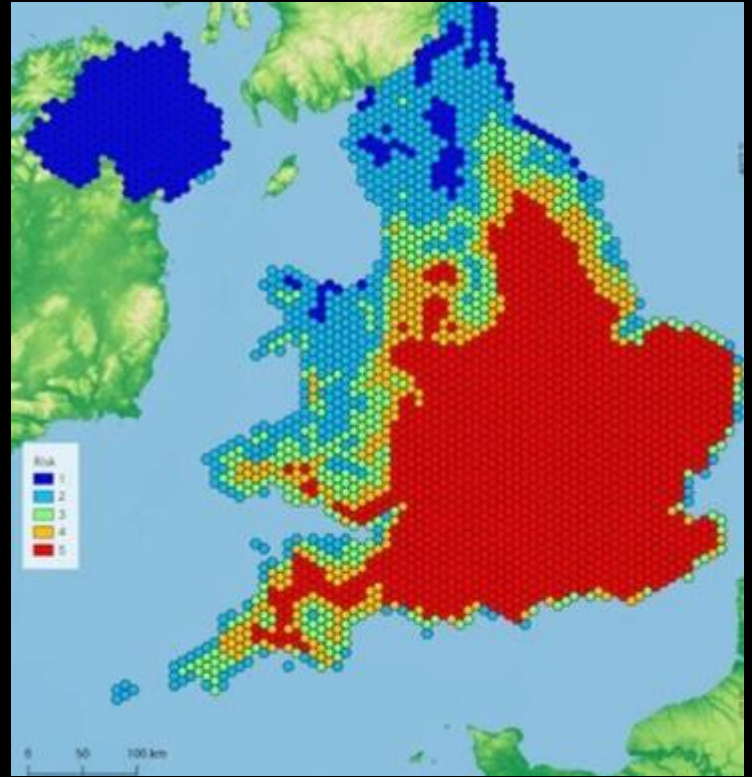




2020



2060



Air Pollution

Fires contribute toxins & particulate matter

Moulds

- *Increased fungal spore production*

Pollen

- *Increase in plant size/growth rate*
- *Increase in pollen production/allergenic proteins*

Fossil Fuel Air Pollution

- *6.6m deaths in 2020*
- *Cardiovascular & respiratory events*
- *Depression, premature birth, miscarriage*



Storm surges

- Storms will increase in frequency, duration & intensity - cyclones likely in Europe in coming decades
- 7% of hospitals in flood risk zones
- 2021 – UK hospitals evacuated due to climate change

Sea-Level Rise

- More than half population live in 60 km of coastline
- 8 of the world's 10 largest cities near a coast
- Sea-levels could rise up to 2m with projected temperature increases
- Vital infrastructure at risk

Flooding in England: National Assessment of Flood Risk. The Environment Agency
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_t_data/file/292928/geho0609bqds-e-e.pdf



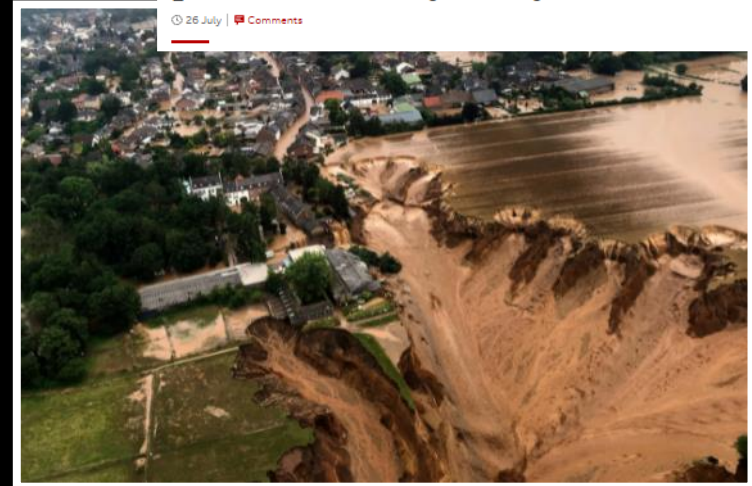
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Flooded London hospitals ask patients to stay away

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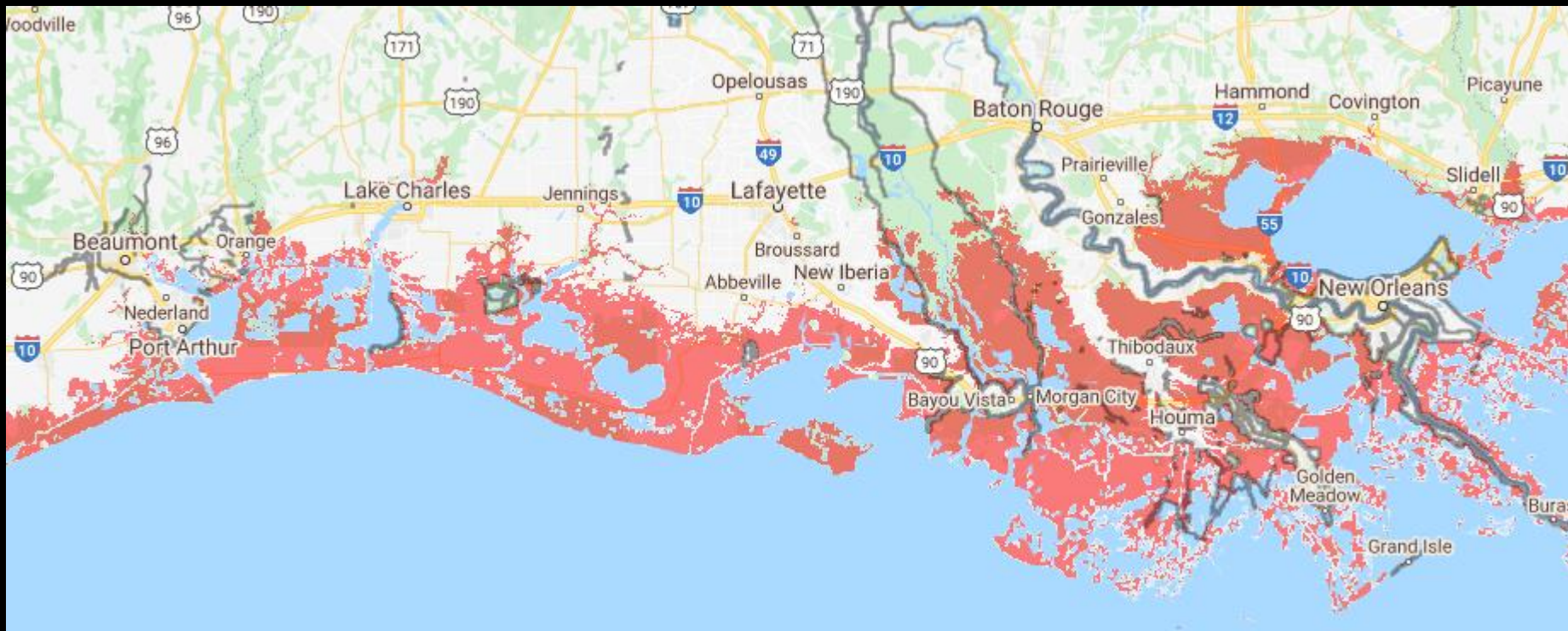
London – estimated flood risk 2050



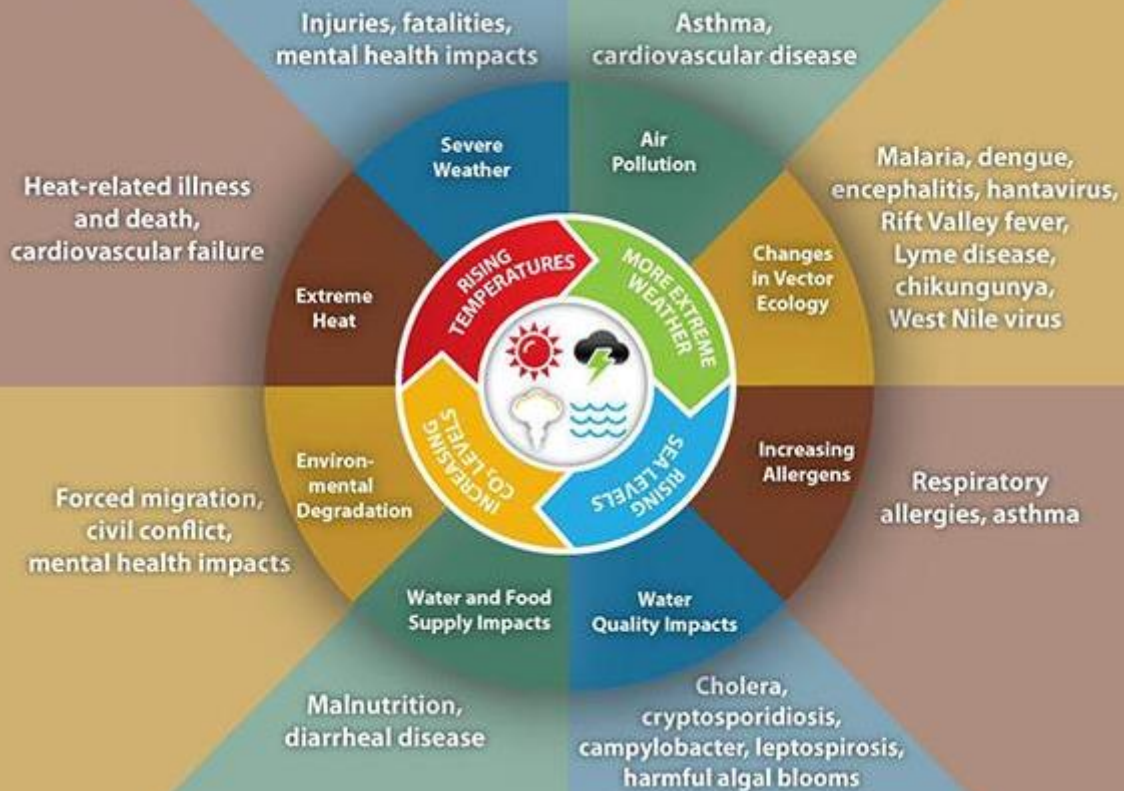
Belgium, The Netherlands



Louisiana, America



Impact of Climate Change on Human Health



The Ecological Crisis

Our ecological footprint is altering the planet's land, rivers & oceans

- Half forests cut down
- 50% habitable land converted for agriculture
- 60% rivers dammed
- Biodiversity Indices at critical levels

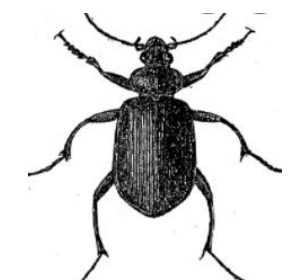
Affects on:

Nutrition

Water purification

Spread of infectious diseases

Climate change

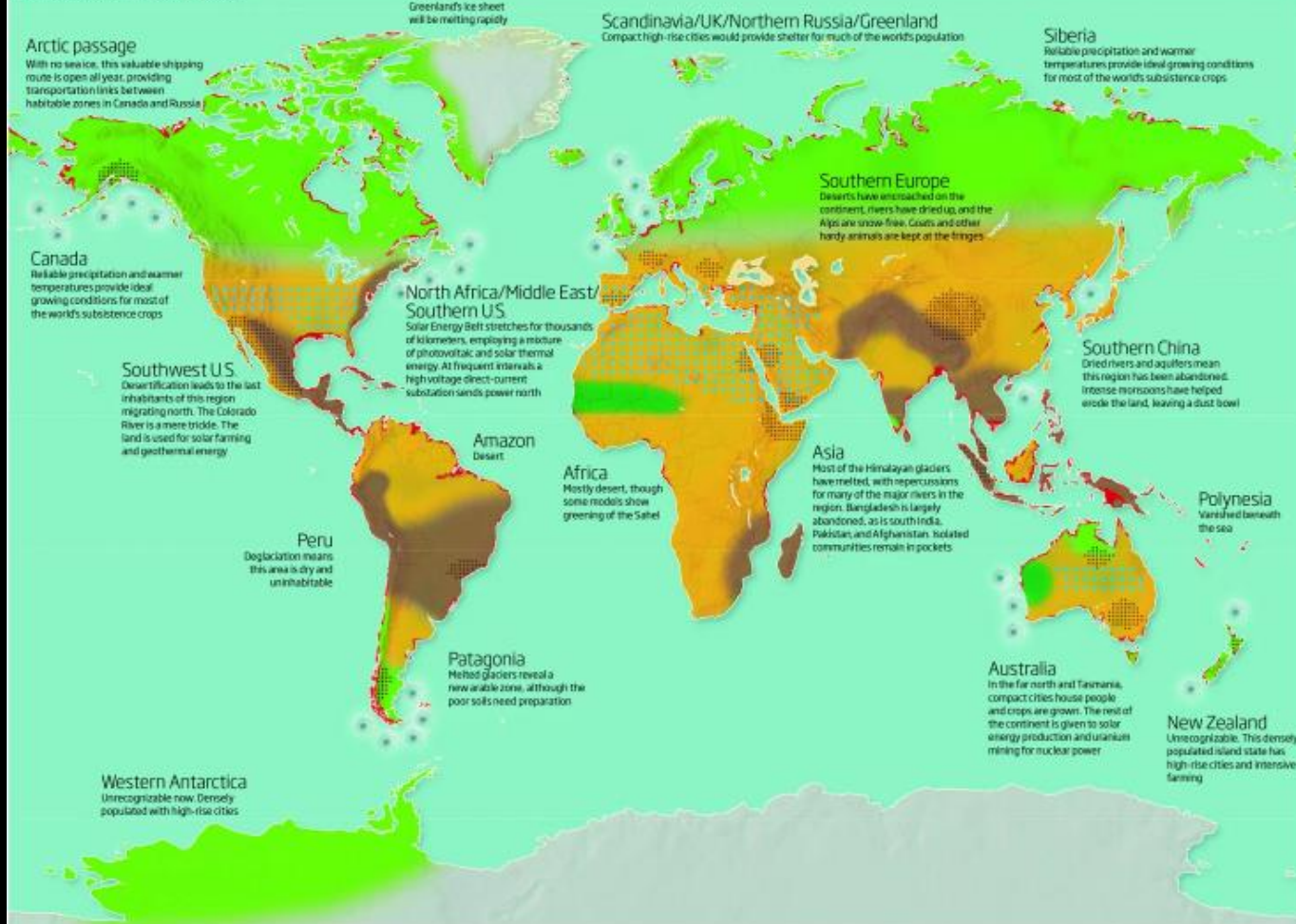


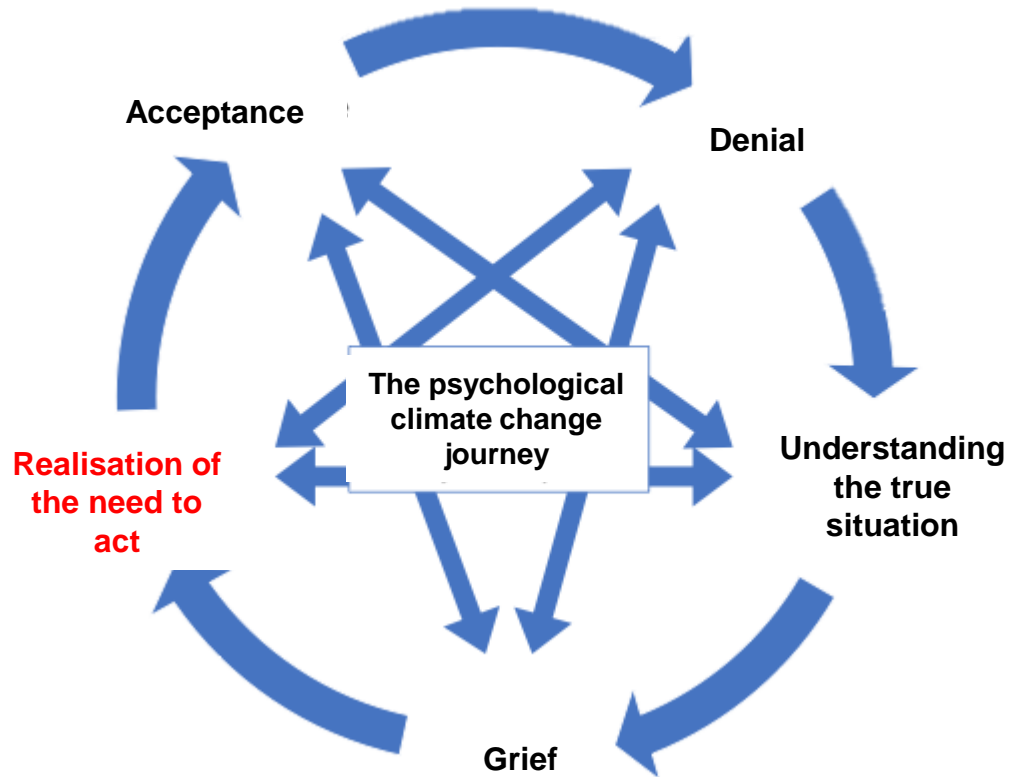
UK government advised to prepare for +4°C by 2100

To keep global warming well below 2°C, emissions need to fall 10x faster

The world: 4°C warmer

No one knows exactly what this world will look like, but models provide insights into forced human migrations and our future power generation





Diagnosis: **Climate & Ecological Emergency**

Presentation: Septic, acidotic, hypercapnic patient with shock-induced deranged organ function.

Treatment: Cease the flow of toxins, restore & regenerate

“Everyone who works in healthcare has a responsibility to take action on the health emergency posed by climate change.”

Dr Nick Watts, NHS Chief Sustainability Officer